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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,055	06/24/2003	Patricia Chapman Irwin	839-1405	1054

30024 7590 03/18/2005

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EXAMINER
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NGUYEN, TRAN N

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/604,055

Applicant(s)

IRWIN ET AL.

Examiner

Tran N. Nguyen

Art Unit

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 13-25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-10, 12 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

*Restriction Election*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. **Claims 1-12**, drawn to slot armor component, i.e., coil retainer and slot closure in the rotor core, classified in *class 310, subclass 214*.
- II. **Claims 13-22**, drawn to composite material, classified in *class 428, subclass 172*.
- III. **Claims 23-25**, drawn to a profile co-extrusion system, classified in *class 425 subclass 131.1*

1. **The applicant has elected claims 1-12** without traverse on 8/16/04. Since the applicant did not provide any traversal arguments to the restriction requirement, the response is considered as election without traverse; therefore, the election/restriction is made FINAL.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over either **Crawford et al (US-4922165)** or individually **Hagiwara et al (JP 362171427)** in view of **Vora et al (US 5120825)**.

**Crawford**, or individually alternate ref **Hagiwara**, each discloses a slot armor comprising a plurality of profile co-extruded polymer layers (Crawford's 37 & 39, Hagiwara's 3a1-3a2), except that neither refs discloses the material (*polymer*) of the slot armor.

Vora, however, teaches that *polymers may be cast as motor slot armors* (also known as slot liners) for insulating the electrical winding from the core and also may serve as heat insulating.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Crawford's or the Hagiwara's slot armors by selecting polymer as fabricating material thereof, as taught by Vora. Doing so would provide the slot armor with highly electrical and heat insulating material to improve the performance thereof.

Regarding claim 11 with the limitations of the first polymer having non-uniform thickness and the second polymer layer having uniform thickness, those skilled in the art would understand that the essential teaching of Crawford or Hagiwara in view of Vora, is the slot armor can be formed as a plurality laminated layers of polymer.

By applying this teaching, it would have been obvious to an artisan at the time the invention was made to modify the size/shape of each polymer in order to ensure fit or enhance performance of the slot armor because it has been held that a change in size or shape, in this instant case it is the change in the size/shape of the polymer layers, is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955) (emphasis added).

3. **Claims 2-3** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Crawford**, or individually **Hagiwara**, and **Vora**, as applied in the rejection against the base claim, and further in view of **Kaminski (US 5065064)**

The combination of Crawford, or individually Hagiwara, and Vora refs substantially discloses the claimed invention, except for the added limitations of the following: the armor having first leg and second leg that is shorter than the first leg, wherein

the thickness of the legs is uniformed (as in claim 3), or

the thickness of the second leg is thicker than the first leg (as in claim 2).

**Kaminski**, however, teaches a slot armor having the configuration with a first leg (12, 13) that is longer than the second leg (12b, 13b) wherein the second leg is bent at an angle to the first leg. The armor with first leg is located along the slot's length and the second leg provides supporting the end layer of the winding and provides insulating for the end of the slot.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the slot armor with the configuration as taught by Kaminski. Doing so would provide the armor with long portion that located along the slot's length and the second short portion provide supporting the end layer of the winding and provide insulating for the end of the slot.

Regarding the thickness of the second leg to be thicker (as in claim 2), or the armor leg portions having uniform thickness (as in claim 3), by applying the Kaminski's teaching, it would have been obvious to an artisan at the time the invention was made to modify the size/shape of the leg portions of the armor as suitably fitting the slot of a core, since it has been held that a change in size or shape, in this instant case it is the change in the size/shape of the polymer layers, is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955) (emphasis added).

***Response to Arguments***

Applicant's arguments filed 1/18/05 have been fully considered but they are not persuasive because of the following:

The applicant argues that the Office Action fails to provide any specific support that layers 37 and 39 of Crawford and/or layers 3a1 and 3a2 of Hagiwara disclose profile co-extruded polymer layers. There is no such teaching in either of these references. Also, Vora discloses that the polymers may be cast as films useful as wire and cable wraps, motor slot liners or flexible printed circuit substrates." However, Vora fails to teach or suggest a profile of co-extruded polymer layers. Therefore, Vora fails to remedy the above-described deficiencies of Crawford and Hagiwara.

In response to this argument, the applicant's attention is drawn to the Crawford's fig 6, and column 8 lines 1-16 thereof. Crawford discloses that the slot armor *sheets (37,39) in their overlaying relation may be deformed or shaped into a preselected* configuration (col 8, lines 2-5). *This is understood that the layers of Crawford's slot armor are being profile co extruded.*

The claimed language recites that the slot armor component comprising a plurality of profile co-extruded polymer layers. The term "*profile co-extruded*" is broadly understood as *being forced or pressed into a profile.* Thus, Crawford does disclose a slot armor comprises plural profile co-extruded layers.

By the same token, the Hagiwara's slot armor also comprises plural co-extruded layers.

Regarding the Examiner's broad and plain interpretation of the claimed language, the applicant is preferred to the following court cases (with emphasis added):

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During patent examination, the pending claims must be “given \*>their< broadest reasonable interpretation consistent with the specification.” > In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).< Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). Also, during examination, the claims must be interpreted as broadly as their terms reasonably allow. This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (*discussed below*)>; *MSM Investments Co. v. Carolwood Corp.*, 259 F.3d 1335, 1339-40, 59 USPQ2d 1856, 1859-60 (Fed. Cir. 2001).

*Thus, based on the interpretation of the recitations “the slot armor component comprising a plurality of profile co-extruded polymer layers”, Crawford and Hagiwara, each individually discloses slot armor comprises a plural co-extruded layers.*

As stated in the rejection, however, **neither Crawford nor Hagiwara discloses the material of the slot armor to be polymer**, as in the claimed language.

The Examiner’s position is that **Vora**, however, teaches that *polymers may be cast as motor slot armors* for insulating the electrical winding from the core and also may serve as heat insulating.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Crawford’s or the Hagiwara’s slot armors by selecting polymer as fabricating material thereof, as taught by Vora. Doing so would provide the slot armor with highly electrical and heat insulating material to improve the performance thereof (see Vora’s Abstract).

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The Examiner has clearly established a prima facie case of obviousness, all of the claim limitations are taught by the combination of the prior art refs.

Therefore, the rejections as set forth in the First Office Action are hereby maintained.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

*Allowable Subject Matter*

**Claims 4-10, 12** are allowed.

*Conclusion*

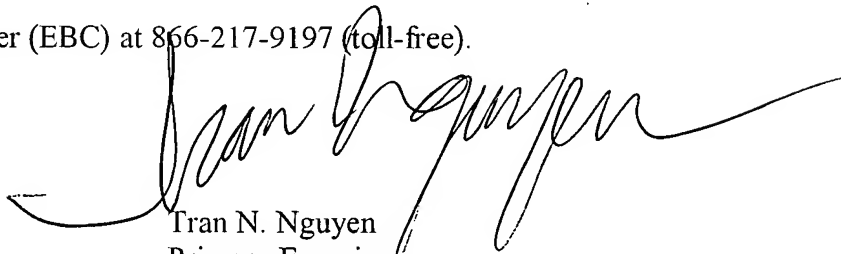
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tran N. Nguyen  
Primary Examiner  
Art Unit 2834

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